

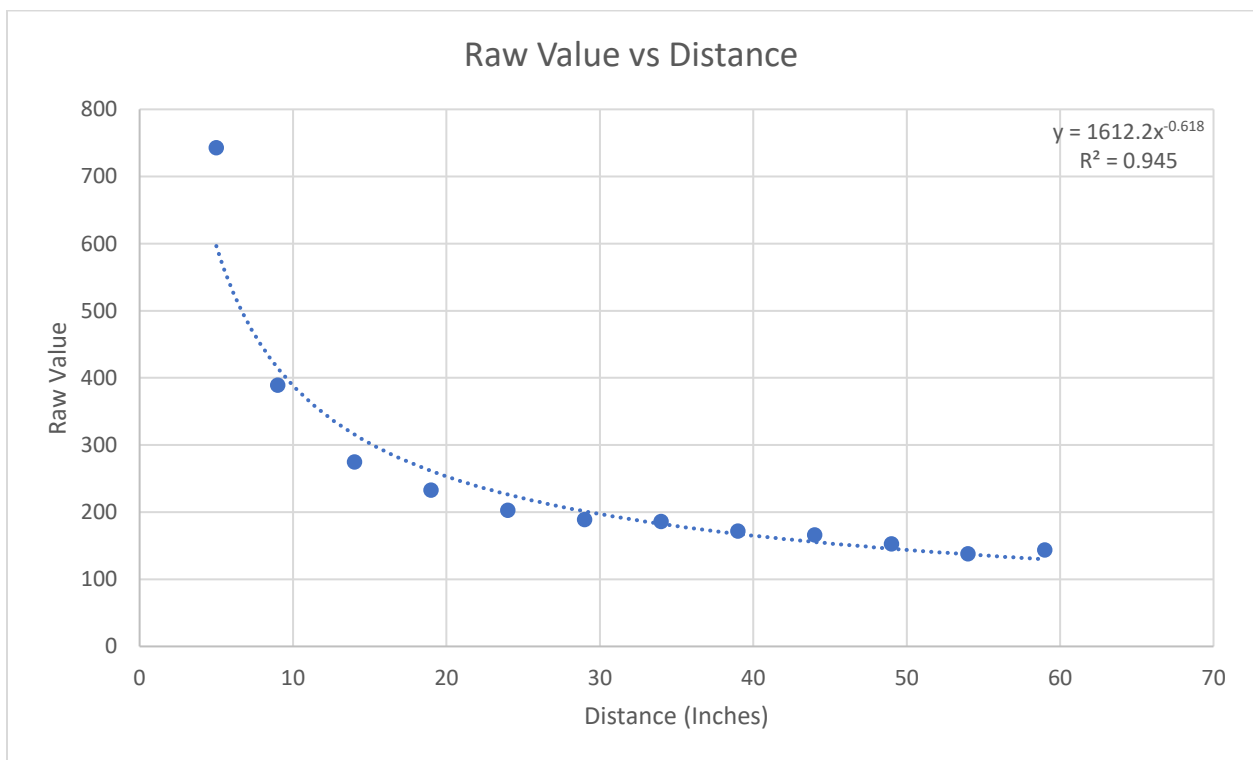
Team Marvin

Assignment 6

4/27/2022

Task 2

The sensor capable of measuring distance is the **Analog Sensor** as it outputs its raw data as a range of values. The equation for the conversion can be found in the graph below.



Task 3

Pseudocode:

- Calibrate the IMU
- Print initial heading on the LCD
- Wait for button to be pushed
- Once pushed begin main loop

Main loop:

- Get IMU data and current distance from analog sensor
- Display all data (Heading on line 1, Distance on line 2)
- If the distance is less than 3 inches, STOP and beep.
 - o Turn Left 90 degrees
 - o Check if there is something immediately after turning 90 degrees.
 - If there is something less than three inches after turning, turn Right -90 degrees and beep
 - Drive forward for 5 seconds and turn back to center
 - o If there is not something after turning, move forward for 1 second
 - o Turn back to center
 - o Break loop and repeat

Picture of Robot setup with Analog sensor mounted on the front (Note the digital sensor is attached in this picture but was removed for the demonstration):

